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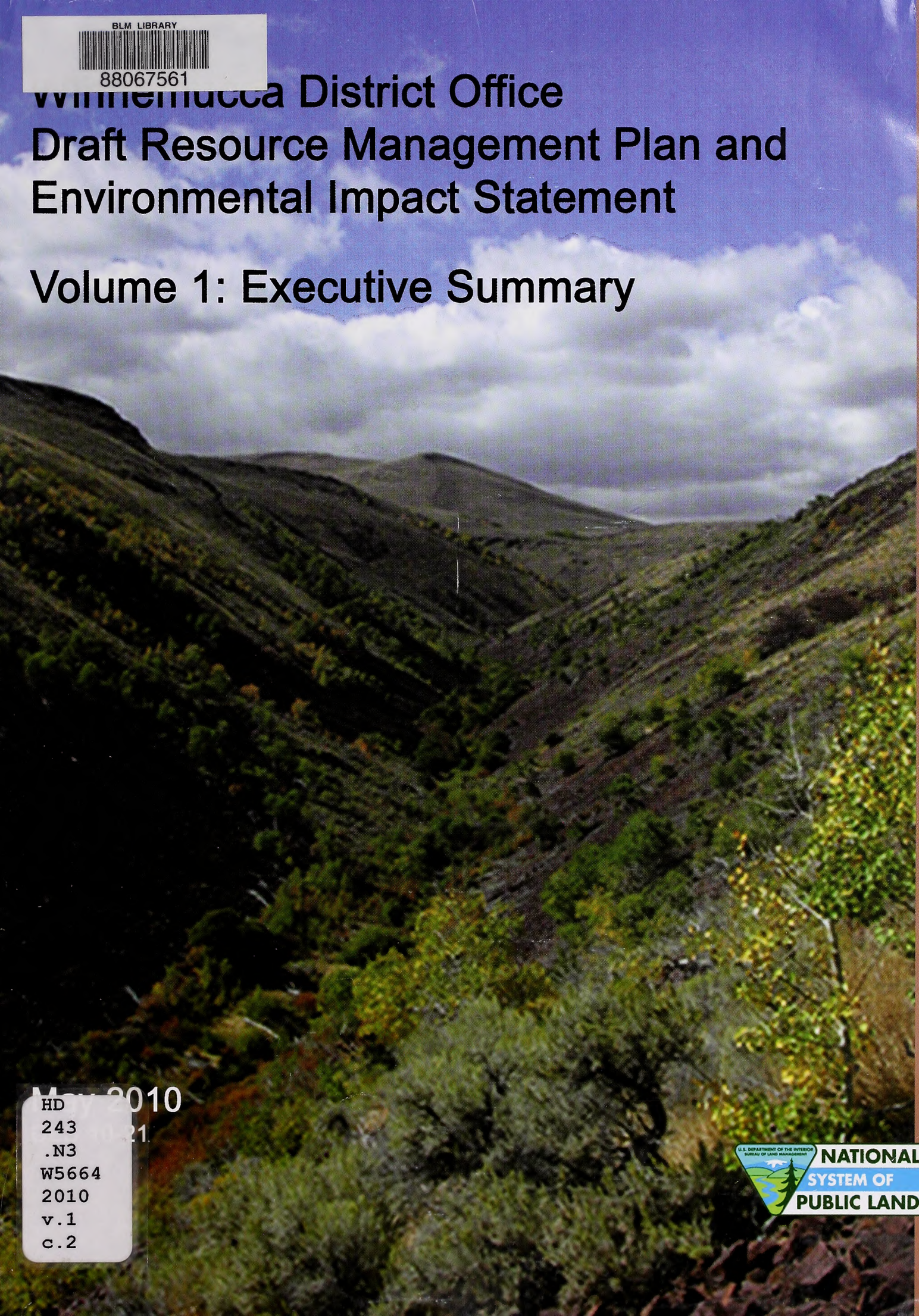
Winnemucca District Office Draft Resource Management Plan and Environmental Impact Statement

Volume 1: Executive Summary



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Winnemucca District Office / Nevada

U.S. Department of the Interior Bureau of Land Management

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United States Department of the Interior

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Dear Reader:

Enclosed is the Draft Resource Management Plan (DRMP) and Draft Environmental Impact Statement (DEIS) for the Bureau of Land Management (BLM), Winnemucca District (WD). Once final, the RMP would replace the current Paradise-Denio and Sonoma-Gerlach Management Framework Plans which were adopted in 1982. The RMP would become the land use planning guidance for the WD.

The BLM prepared the DRMP/DEIS in consultation with cooperating agencies, taking into account public comments received during the scoping period. This DRMP/DEIS was developed in accordance with the National Environmental Policy Act of 1969 (NEPA) and the Federal Land Policy and Management Act of 1976 (FLPMA), the BLM Land Use Planning Handbook (H-1601-1), and other applicable laws and regulations.

The Planning Area includes all 11.2 million acres within the WD's administrative boundary, including the Black Rock Desert/High Rock Canyon National Conservation Area (NCA). The Decision Area, 8.4 million acres, excludes the Black-Rock Desert/High Rock Canyon NCA which is guided by a separate RMP approved in 2004. Also excluded from the Decision Area are private, tribal and federal lands that do not fall under the BLM's jurisdiction. It is this Decision Area that will be governed by the final RMP.

The BLM encourages you to provide information and comments pertaining to the analysis presented in the Winnemucca DRMP/DEIS. Of particular importance is feedback concerning the adequacy and accuracy of the four proposed alternatives, the analysis of their respective management decisions, and any new information that would help the BLM produce a Proposed RMP. Various management decisions from each of the alternatives analyzed in the DRMP/DEIS may be selected for the purpose of creating a management strategy that best meets the needs of the resources and values in this area under the multiple use and sustained yield mandate. Your timely comments will help formulate the Proposed RMP/Final EIS.

Public meetings to provide an overview of the document, respond to questions, and take public comments will be held subsequent to the release of the DRMP/DEIS. The dates, times and locations of these meetings will be announced by local media and internet on the WD's website at: http://www.blm.gov/nv/st/en/fo/wfo/blm_information/rmp. Public meetings will be held in Winnemucca, Lovelock, Gerlach, and Reno, Nevada.

Comments may be submitted electronically via e-mail: wdrmp@blm.gov. Comments may also be mailed to:

Bureau of Land Management
Winnemucca District
5100 E. Winnemucca Blvd.
Winnemucca, NV 89445
Attn: RMP Team

Your review and comments on the content of this document are critical to the success of this planning effort. If you wish to submit comments on the DRMP/DEIS, we request that you make your comments as specific as possible. Comments are helpful if they include suggested changes, sources, or methodologies. Please provide the specific section and or page number your comment references. Comments that are only opinions will not receive formal response from the BLM. Comments will be accepted for ninety (90) days following the Environmental Protection Agency's (EPA) publication of its Notice of Availability in the Federal Register. The BLM can best use your comments if received within the review period.

Public comments submitted for this DRMP/DEIS, including names and addresses of commenters will be available for public review at the Winnemucca District Office during regular business hours 7:30 a.m. to 4:30 p.m., Monday through Friday, except federal holidays. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment -- including personal identifying information -- may be made publicly available at any time. While you can ask us in your comment to withhold personal identifying information from public review, we cannot guarantee that we will be able to do so. All submissions from organizations and businesses and from individuals indentifying themselves as representatives or officials of organizations or businesses will be available for public inspection in their entirety.

Copies of the DRMP/DEIS have been sent to affected federal, state, and local governmental agencies, and organizations and individuals that have requested a copies. Copies are available for public inspection at the Winnemucca District Office during regular business hours 7:30 a.m. to 4:30 p.m., Monday through Friday, except federal holidays.

Thank you for your continued interest in the Winnemucca District Resource Management Plan.

Sincerely,

Gene Seidlitz

Gene Seidlitz
District Manager
Winnemucca District

VOLUME 1: EXECUTIVE SUMMARY

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LIST OF ACRONYMS

Acronym or Abbreviation	Full Phrase
ACEC	area of critical environmental concern
AFY	acre-feet per year
AML	appropriate management level
AMP	allotment management plan
APHIS	Animal and Plant Health Inspection Service
APHIS-WS	Animal and Plant Health Inspection Service-Wildlife Services
AQ	air quality
ATV	all-terrain vehicle
AUM	animal unit month
BCB	Backcountry Byways
BEA	Bureau of Economic Analysis
BIA	US Department of the Interior, Bureau of Indian Affairs
BLM	US Department of the Interior, Bureau of Land Management
BMPs	best management practices
BPS	budget planning system
BRDHRCET	Black Rock Desert High Rock Canyon Emigrant Trails
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CK	cave and karst resources
CNHT	California National Historic Trail
CR	cultural resources
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan
CWMA	Cooperative Weed Management Area
EA	environmental assessment
EIS	environmental impact statement
EO	Executive Order
EPA	US Environmental Protection Agency
ERMA	extensive recreation management area
ES	Executive Summary
ESA	Endangered Species Act of 1973
ES&R	emergency stabilization and rehabilitation
FLPMA	Federal Land Policy and Management Act
FLTFA	Federal Land Transaction Facilitation Act
FMU	Fire Management Unit
FMUD	final multiple use decision
FOFEM	First Order Fire Effects Model
FPA	fire program analysis
FW	fish and wildlife
FRCC	fire regime condition class
G	geology
GAWS	general aquatic wildlife survey
GIS	geographical information system
HA	herd area

LIST OF ACRONYMS *(continued)*

Acronym or Abbreviation	Full Phrase
HAP	hazardous air pollution
HMA	herd management area
HMAP	herd management area plan
HMP	habitat management plan
HUA	herd use area
HVH	high value habitat
IBLA	Interior Board of Land Appeals
IDT	interdisciplinary team
IMP	interim management policy
IPM	Integrated Pest Management
ISA	instant study area
ITA	Indian Trust Assets
KGRA	known geothermal resource area
LCT	Lahontan cutthroat trout
LG	livestock grazing
LR	lands and realty
MACT	maximum available control technology
MBTA	Migratory Bird Treaty Act
MFP	management framework plan
MIST	minimum impact suppression tactics
MOU	memorandum of understanding
MR	minerals: leasable, locatable, salable
NASA	National Aeronautics and Space Administration
NCA	National Conservation Area
NDEP	Nevada Division of Environmental Protection
NDOA	Nevada Department of Agriculture
NDOM	Nevada Division of Minerals
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDVI	Normalized Difference Vegetation Index
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act of 1969
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NGO	non-government organizations
NHPA	National Historic Preservation Act
NHT	National Historic Trail
NRCS	US Department of Agriculture, Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRS	new source review
NSO	no surface occupancy
NWSRS	National Wild and Scenic River Systems
NV	Nevada
OCTA	Oregon-California Trail Association

LIST OF ACRONYMS *(continued)*

Acronym or Abbreviation	Full Phrase
OHV	off-highway vehicle
ORV	Outstanding Remarkable Value
PE	chemical and biological control
PFC	proper functioning condition
planning area	Winnemucca District Office boundary and scope for the RMP
$PM_{2.5}$	particulate matter smaller than 2.5 microns in diameter
PM_{10}	particulate matter smaller than 10 microns in diameter
PMU	population management unit
ppm	part per million
PR	paleontological resources
PS	public health and safety
PSD	prevention of significant deterioration
R	recreation
R&PP	Recreation and Public Purposes Act
RAC	resource advisory council
RAMS	risk assessment and mitigation strategy
RE	renewable energy
RFDS	Reasonably Foreseeable Development Scenario
RIP	range improvement project
RMIS	Recreation Management Information System
RMP	resource management plan
RMZ	recreation management zone
RNA	Research Natural Area
ROD	record of decision
ROI	region of influence
ROS	Recreation Opportunity Spectrum
ROW	right-of-way
S	soils
SASEM	Simple Approach Smoke Estimation Model
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SNPLMA	Southern Nevada Public Land Management Act
SOG	standard operating guideline
SOP	standard operating procedure
SRMA	special recreation management area
SRP	special recreation permit
SSS	special status species
T&E	threatened and endangered
TA	transportation and access
TC	tribal consultation
TCP	traditional cultural property
TDS	total dissolved solids
TM	transportation and travel management
TNEB	thriving natural ecological balance
TNR	temporary nonrenewable
TSP	total suspended particles

LIST OF ACRONYMS *(continued)*

Acronym or Abbreviation	Full Phrase
TSS	total suspended solids
US	United States
USC	United States Code
USDI	United States Department of the Interior
USFS	United States Department of Agriculture, Forest Service
USFWS	US Department of the Interior, Fish and Wildlife Service
USGS	US Geological Survey
VF	vegetation forest and woodland products
VR	vegetation rangelands
VRI	visual resource inventory
VRM	visual resource management
VRW	vegetation riparian and wetlands
VW	vegetation weeds
WA	wilderness area
WAFWA	Western Association of Fish and Wildlife Agencies
WD	Winnemucca District
WDM	wildlife damage management
WDO	Winnemucca District Office
WFDSS	Wildland Fire Decision Support System
WFM	wildland fire ecology management
WFSA	wildland fire situation analysis
WHB	wild horses and burros
WR	water resources
WSA	wilderness study area
WSR	wild and scenic river
WUG	Western Utility Group
WUI	Wildland Urban Interface
WWV	watchable wildlife viewing site

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EXECUTIVE SUMMARY

INTRODUCTION

The United States Department of the Interior, Bureau of Land Management (BLM) has prepared this draft resource management plan (RMP) and environmental impact statement (EIS) to provide direction for managing public lands under the jurisdiction of the Winnemucca District Office (WDO) in northwestern Nevada and to analyze the environmental effects that could result from implementing the alternatives addressed in this plan.

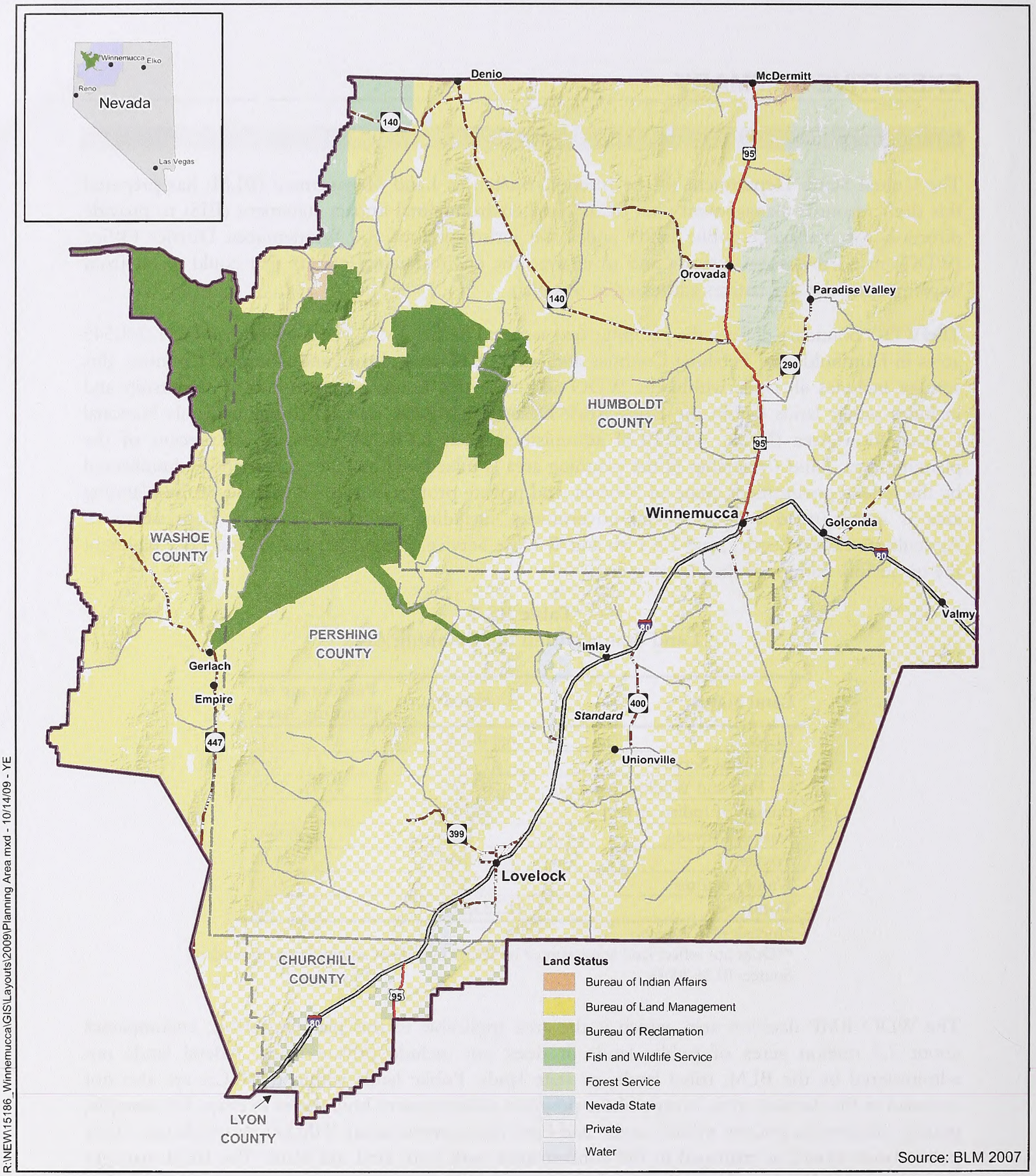
The WDO boundary defines the planning area assessed in this RMP, which encompasses 11,091,545 acres in Humboldt and Pershing Counties and parts of Washoe, Lyon, and Churchill Counties; this acreage includes all lands within the WDO administrative boundary regardless of ownership and includes public lands within the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area (NCA). The BLM administers about 8,448,130 acres, or 75 percent of the planning area. Land ownership in the planning area is mixed and includes other lands administered by the federal government, State of Nevada, and private property. Over 78 percent of the planning area is administered by the federal government, including the BLM, the US Department of Agriculture, Forest Service, and US Fish and Wildlife Service. Table ES-1 and Figure ES-1 highlight the ownership pattern of the planning area.

Table ES-1
Land Status within the Planning Area

Land Status	Acres	Percentage of Planning Area
BLM	8,448,130 *	75.27
US Forest Service	274,825	2.45
US Fish and Wildlife Service	107,169	0.95
Bureau of Indian Affairs	21,991	0.20
State of Nevada	0.28	0.000002
Private	2,338,639	20.84
Water Features	32,812	0.29
Total	**11,223,566 ****	**100**

*Includes NCA acres
**Does not reflect land administered by WDO outside of administrative boundary.
Source: BLM 2005a

The WDO RMP decision area, which is the area applicable to this planning effort, encompasses about 7.3 million acres of public lands; it does not include private lands, federal lands not administered by the BLM, tribal lands, or state lands. Public lands within the NCA are also not included in the decision area, except where program administrative boundaries overlap, for example, grazing allotments, priority wildlife areas, and herd management areas (HMAs), in which case these public lands would be managed in full conformance with both land use plans. The BLM manages the surface and subsurface of federal lands under its jurisdiction and, in some cases, has administrative duties for mineral activities on lands managed by other federal agencies or on private split-estate lands. Split-estate lands are nonpublic lands on which the subsurface mineral estate



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Winnemucca District Office RMP/EIS Planning Area

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Planning Area
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure ES-1

remains with the federal government (BLM). In addition, the BLM administers grazing on certain allotments outside the WDO administrative boundary through memorandums of understanding and inter-district agreements with other BLM administrative offices. Also, 230,163 acres in the Little Owyhee Allotment and 67,021 acres in the Bullhead Allotment are within the administrative boundary of the Elko District Office and are part of the Winnemucca RMP decision area. Therefore, while RMP decisions do not apply to lands not administered by BLM, lands that are interspersed with BLM-managed public lands could be influenced or indirectly affected by BLM management actions. Figure ES-2 depicts the Winnemucca RMP decision area addressed in this document.

The RMP is being prepared using the BLM's planning regulations and guidance issued under the authority of the Federal Land Policy and Management Act (FLPMA) of 1976. An EIS is incorporated into this document to meet the requirements of the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations 1500-1508), and requirements of the BLM's NEPA Handbook, H-1790-1.

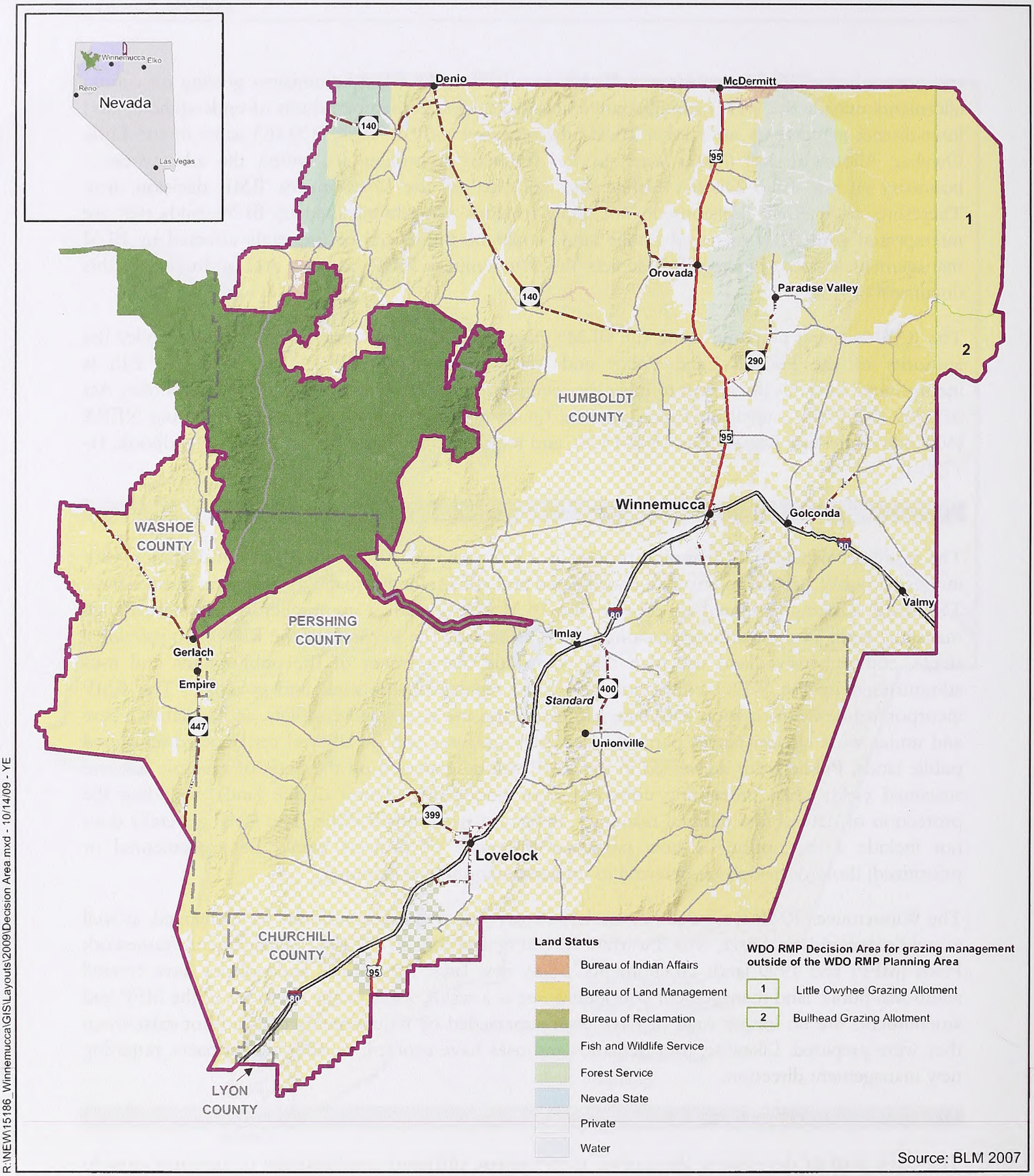
Purpose of and Need for Action

The resource management planning process is a key tool used by the BLM, in collaboration with interested public parties, to ensure a coordinated and consistent approach to managing public lands. The RMP is being prepared to provide the BLM WDO with a comprehensive framework for managing lands in the planning area under its jurisdiction. The purpose of the RMP is to provide a single, comprehensive land use plan that will guide management of the public lands and uses administered by the WDO consistent with laws, regulations, policies, and guidance. The RMP incorporates new information and data, addresses land use issues and conflicts, and specifies where and under what circumstances particular activities and uses will be allowed on BLM-administered public lands. Public lands addressed in the RMP will be managed on the basis of multiple use and sustained yield, while preventing unnecessary or undue degradation of the lands, including the protection of natural and cultural resources, in accordance with FLPMA. The RMP generally does not include a description of how particular programs or projects would be implemented or prioritized; those decisions are deferred to implementation-level planning.

The Winnemucca RMP is needed because regulatory and resource conditions have changed, as well as public demands and uses, which warrant revisiting decisions in the 1982 Management Framework Plans (MFP) and 1999 lands amendments. Many new laws, regulations, and policies have created additional public land management considerations; as a result, some of the decisions in the MFP and amendments are no longer valid or have been superseded by requirements that did not exist when they were prepared. Likewise, user demands and uses have evolved, causing new impacts, requiring new management direction.

Management Alternatives

The basic goal of developing alternatives is to prepare different combinations of resource uses to address issues and to resolve conflicts among uses. Alternatives must meet the purpose and need, must be reasonable, must provide a mix of resource protection, management use, and development, must be responsive to the issues (each issue must be addressed in at least one alternative), must meet



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Winnemucca District Office RMP/EIS Decision Area

Legend

- BLM Winnemucca RMP Decision Area
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure ES-2

the established planning criteria (Chapter 1), and must meet federal laws, regulations, policies, and standards, including the multiple use mandates of FLPMA.

Five alternatives were developed and carried forward for detailed analysis in the draft RMP/EIS. Alternative A, continuation of current management, was developed using available inventory data, existing planning and management documents and policies, and established land use allocations. The action alternatives (B, C [Options 1 and 2], and D) were developed with input from public scoping, the Sierra Front-Northwestern Great Basin RAC-Winnemucca RMP Subgroup, and the BLM interdisciplinary team.

Under all alternatives, the BLM would manage the public lands in accordance with all applicable laws, regulations, and BLM policies and guidance. All public lands would be managed in accordance with the Sierra Front-Northwestern Great Basin Resource Advisory Council Standards and Guidelines for Rangeland Health (Appendix E).

Alternative A (No Action Alternative)

Alternative A, referred to as the No Action Alternative, provides the baseline against which to compare the other alternatives. This alternative would continue present management practices based on existing land use plans and plan amendments incorporated into the existing plans. Decisions contained in the 1982 Sonoma-Gerlach Management Framework Plan (MFP), the 1982 Paradise-Denio MFP, and the 1999 Lands Amendment would be implemented if they were not already completed. Direction contained in existing laws, regulations, policies, and standards would also continue to be implemented, sometimes superseding provisions of the 1980 MFPs and the 1999 Paradise-Denio and Sonoma-Gerlach Management Framework Plan Lands Amendment. The current levels, methods, and mix of multiple use management of public lands in the WDO area would continue, and resource values would generally receive attention at present levels. Key components of Alternative A are as follows:

- Continue to manage the Pine Forest Special Recreation Management Area (37,259 acres);
- On greater than 93 percent of BLM-administered lands in the WDO, continue to allow the public to travel cross-country ("open" designation) with motorized vehicles. On six percent of BLM-administered lands, limit motorized vehicle to designated routes within WSAs ("limited" designation); On less than one percent of BLM-administered lands, prohibit motorized vehicle travel by the public yearlong ("closed" designation);
- No allowance of fire for resource benefit;
- Continue to manage Special Management Areas, which include one 60-acre ACEC at the Osgood Mountains; and
- Maintain 2,989,030 acres of BLM-administered lands as available for disposal, based on established criteria identified in the 1999 Paradise-Denio and Sonoma-Gerlach Management Framework Plan Lands Amendment.

Alternative B

Alternative B emphasizes resource use (e.g., livestock grazing, energy, and mineral development, and recreation) in the planning area. This alternative has the fewest protected areas and restrictions to

development and use. Potential impacts on sensitive resources (e.g., soils and sensitive plant habitat) would be mitigated case by case. Sustainable development concepts are included to maintain economic productivity, especially related to post-use of mining sites. For example, restoration actions that would enhance resource use or commodity production would be used. Sustainable principles promote the disposal of public lands that have been developed if it would foster post-operation reuse. Key components of Alternative B include the following:

- Designate three new Special Recreation Management Areas (SRMAs)—the Nightingale SRMA (925,593 acres), the Winnemucca SRMA (151,824 acres) and the Granite Range SRMA (95,972 acres), and expand the area for the Pine Forest SRMA (98,874 acres);
- Allow the public to travel cross-country (open designation) with motorized vehicles on 21 percent of BLM-administered lands in the WDO. On greater than 78 percent of BLM-administered lands, limit motorized vehicles to designated routes (limited designation). On less than one percent of BLM-administered lands, prohibit motorized vehicle travel by the public yearlong (closed designation);
- Allocate 110,167 acres to allow fire for resource benefit;
- Restore vegetation in areas of altered condition class to improved fire regime condition classes fire regimes, where appropriate. Improve condition class from Class 3 to Class 2 by 70,000 acres;
- Continue to manage existing special management areas, which include one 60-acre ACEC at Osgood Mountain; and
- Identify 2,128,543 acres of BLM-administered lands as available for disposal.

Alternative C, Option 1

Alternative C, Option 1, would develop management strategies to preserve and protect ecosystem health across the planning area, while providing multiple uses. Resource development would be more constrained than under Alternatives B or D, and in some cases and some areas, uses would be excluded to protect sensitive resources. This alternative includes the most special designations, with specific measures to protect or enhance resource values within these areas. This alternative emphasizes active and specific measures to protect and enhance vegetation and habitat for special status species, fish, and wildlife. Likewise, this alternative would reflect a reduction in resource production goals for forage, fiber, and minerals. Production of products would generally be secondary to restoring and protecting important habitats, such as sagebrush and riparian areas. Key components of Alternative C, Option 1 are as follows:

- Designate two new SRMAs, the Winnemucca SRMA (151,824 acres) and the Granite Range SRMA (95,972 acres), and expand the area for the Pine Forest SRMA (98,874 acres);
- On BLM-administered lands in the WDO, prohibit the public from cross-country travel (closed designation) with motorized vehicles; on greater than 99 percent of BLM-administered lands, limit motorized vehicle to designated routes (limited designation);
- No allowance of fire for resource benefit;
- Restore vegetation in areas of altered condition class to improved fire regime condition class, where appropriate, and improve condition class from Class 3 to Class 2 by 70,000 acres;

- Create new special management areas where special values warrant such designation; management would create or expand four ACECs (for a total of 97,816 acres), would designate four specially managed areas that meet wilderness characteristics' criteria, and would recommend segments of the North Fork of the Little Humboldt River, Washburn Creek, and Crowley Creek (for a total of 19 miles) found eligible and suitable for inclusion in the National Wild and Scenic Rivers System; and
- Identify 1,215,963 acres of BLM-administered lands as available for disposal.

Alternative C, Option 2

Management strategies under Alternative C, Option 2, would be the same as those identified above under Alternative C, Option 1, with the exception of livestock grazing management. To fully explore the impacts from livestock grazing, Alternative C, Option 2, evaluates a no grazing alternative.

Alternative D (Preferred Alternative)

Alternative D includes recommendations made by the interdisciplinary team from issues identified through the assessment of current management and concerns raised during scoping, with some adjustments as necessary to meet current policy and guidance. It represents a mix and variety of management actions that best resolve the issues identified from the assessment of need for changing management, concerns raised during public scoping, and future management considerations. This alternative would reflect the goals and objectives for all values and programs.

This alternative emphasizes an intermediate level of protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses. The management strategy would be accomplished by using an array of proactive and prescriptive measures that would protect vegetation and habitat and would promote the continuation of multiple resource management. Vegetation and special status species habitat would be restored and enhanced to provide for the continued presence of an ecologically healthy ecosystem using a suite of proactive and specific prescriptive management tools and implementation measures. Commodity and development-based resources, such as livestock grazing and minerals production, would be maintained on public lands through specific actions to meet resource goals and protect ecosystem health. Management strategies would continue to provide for recreational opportunities and access to and on public lands and would take into consideration the result of management actions on the economies of communities within the region.

Unlike the other alternatives, this one provides sustainable development criteria for determining the suitability of reusing developed sites. Key components of Alternative D are as follows:

- Designate three new SRMAs—the Nightingale SRMA (925,593 acres), the Winnemucca SRMA (151,824 acres), and the Granite Range SRMA (95,972 acres), and expand the area for the Pine Forest SRMA (98,874 acres);
- Allow the public to travel cross-country (open designation) with motorized vehicles on four percent of BLM-administered lands in the WDO; on 95 percent of BLM-administered lands, limit motorized vehicle to designated routes (limited designation); on one percent of BLM-administered lands, prohibit motorized vehicle travel by the public yearlong (closed designation);
- Allocate 9,932 acres to allow fire for resource benefit;

- Restore vegetation in areas of altered condition class to improved fire regime condition classes fire regimes, where appropriate, and improve condition class from Class 3 to Class 2 by 70,000 acres;
- Create new special management areas where special values warrant such designation; management would create or expand four ACECs (97,820 acres); and
- Identify 1,281,959 acres of BLM-administered lands as available for disposal.

ENVIRONMENTAL CONSEQUENCES

Alternative A (No Action Alternative) would be a continuation of current management. Alternative B offers the greatest economic potential but greatest potential impact on the physical and biological environment. Conversely, Alternative C, Option 1, would have a lesser impact on physical and biological resources but the potential for a greater impact on the local economies and businesses that depend on the public lands in the planning area for tourism, recreation, and resource extraction.

Alternative C, Option 2, would exclude livestock grazing on public lands. It would have the least potential impact on physical and biological resources but the greatest impact on the local economies and businesses that depend on the public lands in the planning area for revenue from livestock grazing operations.

Alternative D would allow for many uses to continue but could constrain certain activities in order to maintain or improve land health conditions. Impacts under Alternative D tend to be within the range of Alternatives B and C (Option 1). Taking no action would prohibit the BLM from implementing management measures needed to both protect resources and to address concerns related to recreation pressure. Detailed descriptions of impacts of the five alternatives are provided in Chapter 4, along with a discussion of the cumulative impacts, irretrievable and irreversible commitments of resources, and unavoidable adverse impacts of the alternatives.

RATIONALE FOR INDENTIFYING THE PREFERRED ALTERNATIVE

Alternative D is the agency's preferred alternative.

The BLM selected the preferred alternative based on interdisciplinary team recommendations, environmental consequences analysis of the alternatives, and public input during scoping. Alternative A, the No Action Alternative, was not the preferred alternative because it minimally addresses current and relevant issues identified through public scoping, required components of the land use planning document, and concerns of the planning team.

Alternatives B and C both address the identified relevant issues and required components necessary in a land use planning document focusing on conservation and commercial uses of the public land. Alternatives B and C also address the public's issues and concerns through identified management direction, as well as the purpose and need, but they lack a balance between resources and resource use allocations.

At this time, Alternative D, the preferred alternative, provides the most reasonable and practical approach to managing the public land resources and uses, while addressing the relevant issues and purpose and need. Alternative D provides a balanced approach to public lands management with an appropriate level of flexibility to meet the overall needs of the resources and use allocations. This

alternative represents management that is proactive and provides flexibility to adjust to changing conditions over the life of the plan while emphasizing a level of protection, enhancement, and use of the resources into the future.

COMPARISON AND SUMMARY OF ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

Resources

Air Quality

The major sources of air pollution emissions within the WDO area include wildland fires, agricultural burns, vehicle traffic on unpaved roads, OHV use of unpaved roads, OHV use itself, wind erosion in dry lakebeds and other poorly vegetated areas following wildfires, mining and mineral developments, and energy resource developments. Wildland fires generally are the emission source with the greatest and most widespread impact on air quality in the WDO area. Depending on wind conditions, wildland fires and prescribed burns elsewhere can have an impact on air quality conditions in the WDO area. Other emission sources tend to have more localized effects on air quality.

Air quality management objectives for all of the RMP alternatives focus on compliance with federal and state air quality standards and air quality management programs. Owners and operators of mineral and energy resource development projects would continue to be subject to state and federal air quality management programs, including air permit programs and fugitive dust control programs. Both existing and future gold and silver mining operations would be subject to Nevada mercury emission regulations. The WDO area has been designated as being in compliance with federal ambient air quality standards. It should be noted that air quality impacts associated with natural events generally are excluded from consideration when determining whether or not an area complies with federal ambient air quality standards. Existing programs and procedures would continue to ensure that if prescribed burns do occur, they would not result in excessive smoke impacts on smoke-sensitive areas.

Alternatives A and C would not allow the use of wildfires for resource benefit while Alternatives B and D would. Allowing wildfires to burn in situations where the fire provides resource benefits would result in some increase in emissions for Alternatives B and D compared to Alternatives A and C. However, wildfire use for resource benefit is likely to be only a minor contributor to total annual emissions from wildfires.

Future mining activities, oil and gas developments, geothermal developments, and renewable resource developments are expected to be similar under all RMP alternatives. Because mineral development is largely driven by forces external to BLM, these activities would be nearly the same under all alternatives. Most areas proposed to be closed to mineral development in any alternative have only speculative value for most mineral resources. When mineral development occurs there would be mitigations in place under all alternatives.

RMP alternatives are expected to differ somewhat in the location and amount of recreational activity, especially OHV activity. Because the spread of cheatgrass has been a major factor affecting the location, frequency, and intensity of wildland fires, differences among RMP alternatives in the effectiveness of cheatgrass control are expected to produce differences in wildland fire emissions.

Two aspects distinguish Alternative C from the other alternatives in terms of air quality implications. Alternative C is expected to have the lowest level of OHV use among the alternatives since OHV use generally would be limited to established roads and trails and, Alternative C may indirectly increase the recurrence interval for wildland fires since it is likely to have less effective programs for cheatgrass control than the other alternatives. Because wildland fires are a more significant source of air pollution than OHV use, the overall effect is that Alternative C may result in higher overall air pollutant emissions than the other alternatives.

Geology

Impacts on geologic resources occur from large-scale surface disturbance, such as mining, erosion, off-road vehicles, excavation, and vandalism. Damage and vandalism are usually concentrated near roads and trails.

There are no likely impacts on unique geologic resources resulting from the management, objectives, or actions under any of the alternatives for most of the other resources. With respect to effects on unique geologic resources, all of the alternatives are essentially equivalent.

Under Alternative A, mitigations and restrictions concerning unique geologic resources would be determined on a case-by-case basis, and the current OHV use within exclusion zones would be maintained. Under Alternatives B, C, and D, the BLM would continue to evaluate sites containing unique geologic resources as to their significance and need for protection. Within areas with unique geologic resources, OHV travel would be designated as "limited" on existing roads and trails. Impacts on unique geologic resources would be limited to those already damaged by existing roads and trails. Increased regulation and increased protection of other resources would result in less area being subject to surface-disturbing activities and activities with increased potential for erosion. These changes would result in less general damage to unique geologic resources and would increase protection of specific identified resources.

Under Alternative B, areas with unique geologic resources would remain open for all methods of mineral disposal, subject to mitigation measures sufficient to protect the values at risk. Under Alternatives C and D, these areas would be designated as exclusion zones for ROWs and other discretionary actions, and the areas would be closed to salable mineral disposal. The areas would not be available for leasable minerals exploration and development under Alternative C but would be under Alternative D with a no surface occupancy (NSO) stipulation. Alternative C would restrict all mining activities, while under Alternative D the exclusion zones would be open for acquiring the rights to locatable minerals, but operations would typically require special handling, additional limitations, or stipulations applied. Under Alternatives C and D proposed nondiscretionary activities that may affect geologic features would be authorized with appropriate mitigation measures, while under Alternative C discretionary activities that may affect geologic features would not be allowed.

Soil Resources

Soil resources would be managed to maintain the natural habitat of the area and to minimize the potential for accelerated (human-caused) wind and water erosion. In order to maintain soil processes, a healthy, productive, and diverse plant community is necessary. Improved ecological condition would increase productivity, litter, soil biological crusts, soil fertility, infiltration, and nutrient cycling.

There are no likely impacts on soils resulting from the management, objectives, or actions under most of the other resources. With respect to effects on soil resources, all of the alternatives are essentially equivalent. Impacts on soil resources from management actions related to land use, grazing, fire management, recreation use, OHV travel, and other resources would vary the amount of land available for surface-disturbing activities and those that could impact the soil resources.

Under Alternatives A and B, soil erosion would be reduced by maintaining and improving the vegetative cover in areas designated as having high erosion susceptibility. Under Alternatives C and D, improvements would be pursued generally instead of just in erosion areas, and soil mitigation measures would be applied to all activities. Surface disturbances to vulnerable biological soil crusts would be minimized on a case-by-case basis under Alternative A, including some seasonal restrictions; they would be allowed with adverse effects mitigated under Alternative B, they would be eliminated or fully mitigated under Alternative C, including seasonal eliminations and use restrictions, surface disturbances would be minimized in areas with inadequate vegetative cover under Alternative D, including case-by-case seasonal use restriction.

Under Alternative A, surface disturbance activity operators would be encouraged to minimize disturbance. The BLM would pursue land reclamation in disturbed areas with conditions and methods determined on a case-by-case basis. Vegetation cover would be improved using a diversity of native and introduced vegetation with native seed. Vegetation grown from native seeds would be preferred over introduced seed. Under Alternative B, surface disturbance activity operators would be encouraged to minimize disturbance, and the BLM would pursue land reclamation in disturbed areas. Land reclamation to original conditions would be required with best available material for growth media. Soil amendments would not be required. Vegetation cover would be improved primarily using introduced seed.

Under Alternative C, surface disturbance activities would be required to maintain, protect, or reduce adverse impacts on soil resources, and all land where the surface has been disturbed would be required to be reclaimed. Reclamation to or better than original conditions would be required for all surface-disturbing activities, with salvaged or imported growth media. Only natural or organic soils amendments would be allowed. Only native vegetation would be used, which could result in areas being untreated and dominated by invasive plants when native seed supplies are exhausted.

Under Alternative D, surface-disturbing activities would be managed to ensure reclamation, where it is appropriate, with best available salvaged growth medium. Activities would be encouraged to maintain, protect, or reduce adverse impacts on soil resources, and, where appropriate, the BLM would manage surface-disturbing activities to ensure reclamation. Soil amendments would be allowed, where appropriate. Vegetation cover would be improved using a diversity of native and introduced vegetation with native seed. Vegetation grown from native seeds would be preferred over introduced seed.

Water Resources

Each alternative has a different emphasis, which is expected to result in different priorities for resource development. These priorities are expected to result in higher probabilities for adverse impacts on water resources under some of the alternatives.

Alternative A contains fewer, and generally less specific, management actions than the other alternatives. In some cases this is because new objectives have been formulated based on experience gained under the previous plans. In other cases, new or different management options have been formulated to address existing objectives that are carried forward in the RMP. Where Alternative A is silent about a new objective or less specific regarding existing objectives, this does not mean that the issues identified under the other alternatives would not be addressed under Alterative A. Without the guidance offered by an updated management plan, not only would Alternative A allow the BLM more latitude in addressing these issues, but the lack of guidance would also make it more difficult to implement actions that were not anticipated when the MFPs were developed. Alternative B generally prioritizes development of resources for economic return while relying on mitigation to reduce, rather than prevent, adverse impacts. Alternative B would likely have greater impacts on water quality than would Alternatives C and D.

Alternative C is the most protective of water resources because it involves the least new development, excludes potentially impactful uses, and prioritizes protection and restoration of resources when conflicts among uses occur. As one measure of the difference between Alternatives B and C on water quality, Alternative C would reduce road use, resulting in less potential for associated erosion impacts. However, some management actions under Alternative C may also enhance impacts on water resources. For example, less aggressive fire management and greater reliance on natural processes could lead to greater potential for large fires in the short term and associated short-term adverse impact on water resources.

Alternative D is less didactic in its overall approach, alternatively emphasizing development priorities or preservation priorities according to resource realm. Alternative D therefore represents a compromise, and its impacts on water resources are expected to be generally intermediate between Alternatives B and C. Overall, it tends to encourage economic development, but recognizes sensitive environmental concerns on a greater amount of land area, resulting in more acres excluded or restricted from conflicting uses than Alternative B.

Vegetation—Forest/Woodland Products

Forested vegetation would be affected most by fire management and forest vegetation management. Restrictions on management activities for the protection of other resources, primarily cultural, visual, and special status species, would affect the level, location, and effectiveness of forest management actions to improve forest health. Effects from other resources could be limited and localized, considering the extent of forests and woodlands within the WDO.

From the standpoint of managing forest stands to maintain or improve wildlife habitat, Alternative C would provide the greatest benefit, followed by Alternatives D, A, and then B. All alternatives would allow for managing forest stands for stand health and vigor. Multiple uses would be emphasized the most in Alternative B, followed by Alternatives D, A, and C.

Vegetation—Weeds

Weed potential would be affected most by fire and OHV management. Restrictions on management activities for the protection of other resources, primarily cultural, visual, and special status species, would affect the level, location, and effectiveness of weed management actions to reduce weed potential. Effects from other resources could be limited and localized.

The factors that most differentiate one alternative from another in terms of their potential for weed infestation are the degree to which areas are open to OHV use, the type of treatments that would be allowed within the WDO, the amount of acreage available for grazing and ground-disturbing activities. Alternative C would provide the greatest protection from weed spread, but Alternative D would provide the greatest flexibility in treating infestations. Alternatives A and B allow for more surface-disturbing activities and call for less aggressive weed treatment and avoidance overall, so these alternatives would allow for higher weed potential throughout the WDO.

Vegetation—Rangelands

This vegetative analysis is qualitative, as specific impacts of resource activities on vegetation cannot be quantified. Rangeland vegetation, wildland fire, livestock grazing, and cultural resources actions would have the greatest impact on rangeland vegetation within the WDO. It is BLM's judgment that several resources areas are not likely to impact rangeland vegetation resources. These areas are geological resources, riparian and wetland vegetation, paleological resources, cave and karst resources, national trails, wild and scenic rivers (WSRs), and public health and safety.

Surface-disturbing activities on public land that covers less than one acre would cause short-term disturbance to vegetation by removal or trampling, which would allow weeds to become established. Such activities include monitoring; small construction, implementation, and maintenance activities; fence building; road maintenance; wild horse and burro gathers; livestock impoundments; trap sites; recreational activities, such as camping, hiking, and backpacking; vegetation mowing; seed collection; and soil pit and cultural and paleontology site excavations for data recovery. Impacts would be limited and localized, due to the small area covered by these activities.

Alternative C, Option 2 would have the greatest impact on rangelands, as grazing would be prohibited. Alternatives A and B would be the least prohibitive toward use of rangelands, while Alternative C, Option 1, and Alternative D allow for the most resource protection.

Vegetation—Riparian Habitat and Wetlands

This vegetative analysis is qualitative because specific impacts of resource activities on vegetation cannot be quantified. The greatest impact on riparian or wetland habitat within the WDO would be from wildland fire, livestock grazing, and wild horse and burro actions. It is the BLM's judgment that several resources are not likely to impact riparian or wetland habitat resources. These areas are air, cultural resources, geological resources, paleontological resources, caves and karsts, national trails, and public health and safety.

Alternative C would provide the most protection to riparian and wetland vegetation by restricting treatments, activities, and OHV use in these areas. Alternative D would provide a more flexible approach by protecting these areas while allowing for multiple uses. Alternatives A and B would provide less protection for riparian and wetland areas.

Fish and Wildlife

Impacts on fish and wildlife resources in the WDO from other management programs include loss or alteration of native habitats, decreased food and water availability and quality, increased habitat fragmentation, changes in habitat and species composition, interruption of travel corridors, and

disruption of species behavior, leading to reduced reproductive fitness or increased susceptibility to predation, and direct mortality. Surface-disturbing actions that alter vegetation characteristics (e.g., structure, composition, and production) can affect habitat suitability for fish and wildlife, particularly where the disturbance removes or reduces cover and food resources. Even minor changes to vegetation communities can affect resident wildlife populations.

The direct and indirect impacts of management actions on fish and wildlife resources may vary widely, depending on a variety of factors, such as the dynamics of the habitat (e.g., community type, size, shape, complexity, seral state, and condition), season, intensity, duration, frequency, and extent of the disturbance, rate and composition of vegetation recovery, change in vegetation structure, type of soils, topography and microsites, animal species present, and the ability of fish or wildlife species to leave or recolonize a site after a disturbance.

Proposed management practices can mitigate many of the effects from these actions. Alternative C would best manage habitat to maintain biological diversity of wildlife, followed by Alternatives D, B, and then A. Although Alternative B is the resource use alternative, it includes more proactive resource management and conservation measures for fish and wildlife than the No Action Alternative (Alternative A).

Special Status Species

Impacts on special status fish, wildlife, and plant resources in the WDO include loss or alteration of native habitats, increased habitat fragmentation, changes in habitat and species composition, disruption of species behavior leading to reduced reproductive fitness, and direct mortality. Surface-disturbing actions that alter vegetation characteristics (e.g., structure, composition, or production) have the potential to affect habitat suitability for special status fish, wildlife, and plants, particularly where the disturbance removes or reduces cover or food resources. Even minor changes to vegetation communities have the potential to affect resident special status populations.

The direct and indirect impacts of management actions on fish, wildlife, and plant resources may vary widely, depending on a variety of factors such as the dynamics of the habitat (e.g., community type, size, shape, complexity, seral state, and condition); season, intensity, duration, frequency, and extent of the disturbance; rate and composition of vegetation recovery; change in vegetation structure; type of soils; topography and microsites; animal species present; and the mobility of fish or wildlife species (i.e., the ability to leave a site or recolonize a site after a disturbance).

Proposed management practices can mitigate many of the effects from these actions. Alternative C would best protect habitat to maintain biological diversity of wildlife, while Alternatives A and B allow for some compromise to special status species and their habitat conditions. Alternative D combines aspects of the other alternatives to provide a flexible approach to achieving other management objectives while protecting special status species and their habitat.

Wild Horses and Burros

Each alternative has a different emphasis, which is expected to result in different priorities for resource development. These priorities are expected to result in higher probabilities for adverse impacts on WHB populations and habitat resources under the alternatives.

Alternative A represents current management under guidance of the 1982 Sonoma-Gerlach and Paradise-Denio Management Framework Plans and the amendments of 1999. Alternative A contains fewer, and generally less specific, management actions than the other alternatives. It represents the status quo.

Alternative B generally prioritizes development of resources for economic return while relying on mitigation to reduce, rather than prevent, adverse impacts. Alternative B would likely have greater impacts on WHB than would Alternatives C and D. However, B is the only alternative that does not allow for the occupancy of elk to occur on BLM lands, which lessens overall habitat competition impacts on WHB.

Alternative C is the most protective of natural resources because it involves the least new development, excludes potentially impactful uses, and prioritizes protection and restoration of resources when conflicts among uses occur. Option 1 emphasizes protection of wildlife habitat over WHB and allows for minimal development of WHB habitat. Alternative C, Option 2, removes all livestock grazing and is thus considered the best alternative for WHB. No livestock grazing would decrease competition with WHB for forage and water resources, would remove fence impediments, and would lessen disturbance. However, both options may impact WHB by reducing the appropriate management level in lieu of developing WHB waters and by allowing elk populations to occur.

Alternative D represents a compromise between preservation and development. It attempts to balance appropriate multiple uses and manages for a healthy environment. It allows the greatest flexibility of potential management tools. Therefore, Alternative D impacts on WHB are expected to be generally intermediate between Alternative B and Alternative C, Option 1.

Wildland Fire Management

Protecting priority wildlife habitats, priority watersheds, cultural resources, commercial, mineral development, and recreation infrastructure would affect fire suppression priorities by increasing demands for fire suppression resources and fuel treatments. Conflicts could result as available firefighting resources become overextended. This could increase the costs of firefighting, if additional resources are needed. Overextended firefighting resources could also affect availability of firefighting resources locally, regionally, or nationally if they were diverted from other suppression efforts to the WDO. A similar trend is occurring nationwide. Because Alternative C generally has the most areas with priorities for protection, it has the greatest potential to increase demands and costs for fire suppression resources and fuel treatments.

Alternative A provides the most access for fire suppression, but it would also has the highest risk for human-caused fire due to the number of acres designated open to OHV travel, compared to other alternatives. This alternative would have fewest fire suppression priority areas. Mineral and energy development would likely increase the number of facilities needing fire suppression.

Alternative B has the greatest potential to increase the Wildland Urban Interface areas (WUI) as more public acres would be available for land disposal. The risk of human-caused fire would be lower due to fewer acres designated open to OHV travel compared with Alternative A. Alternative B has more open acres than Alternatives C and D. Alternative B has the most potential for increased commercial and mineral development infrastructure that would require fire suppression protection.

Alternative C would close or restrict the most areas to OHV travel, which would result in lowering the potential for human caused fires and reduce a major source of weed spread. Option 2, would eliminate grazing and both options would eliminate chemical and prescribed fire treatments for weeds and to reduce fuels. Potential for fine fuel buildup would occur which could result in increased size and intensity of fires. This alternative has the largest number of priority protection areas which would increase fire suppression complexity to prioritize fires.

Alternative D encourages recreation more than Alternatives A and C but has fewer acres designated open for OHV travel. Additional priority protection areas would increase priorities for fire suppression, causing prioritization conflicts. ES&R actions to restore vegetation conditions, and prevent or eliminate the spread of noxious weeds, invasive plants, and to rehabilitate burned areas would all reduce condition classes in the long run. These actions would also support the return of natural fire regimes, along with reducing the risks from wildland fire to the public and other resources.

Under all alternatives, large wildland fire suppression costs are expected to increase due to increasing operating costs (fuel, personnel, equipment, and supplies), additional development outside the control of BLM managers, and increasing populations. The following assessment of the impacts of the RMP actions that differ between alternatives, using Alternative A as the base line.

Alternative A would cause the second least increase in the cost of large wildland fire suppression. This alternative has a mix of beneficial and adverse effects for fire suppression costs. It has few restrictions but also has few tools.

Alternative B would have the least increase in the cost of large wildland fire suppression. Generally, it has the fewest restrictions on vegetation management, fire suppression, and access than other alternatives. It does allow for more development that would increase fire suppression priorities.

Alternative C would increase the cost of large wildland fire suppression the most. While it restricts many of the activities that cause a spread of weeds (particularly Option 2) or development that needs protection, it also limits the tools available to reduce fuel, control weeds, and suppress fires. It increases fire suppression on the most areas.

Alternative D would have the second most increase in the cost of large wildland fire suppression. It restricts vegetation management actions somewhat, has protection for wildlife habitat and watersheds, and allows development that would increase suppression priorities. The cost increase would be lower than under Alternative C because more fire suppression and fuel reductions tools can be used.

Cultural Resources

Proposed management actions that could impact or increase the risk of impacts on known and unknown cultural resources include those that require ground disturbance, that affect natural processes, such as erosion, that expose vulnerable cultural resources to intense fire, that open or close land to potentially incompatible uses, that affect the visual, atmospheric, or aural setting of some cultural resources, traditional cultural properties, sacred sites and National Historic Trails, that affect access to cultural resources, and that remove or add land subject to federal protections for cultural resources.

Most of the WDO has not been inventoried for cultural resources, and thousands of undiscovered or unrecorded resources are believed to be there. A Section 106 process and tribal consultation would be completed to address anticipated impacts resulting from authorized and planned activities; however, unauthorized or unplanned activities, wildland fire, dispersed recreation, natural processes and unauthorized collection, excavation, and vandalism could lead to impacts that may be more difficult to monitor and mitigate. Management actions include stipulations designed to avoid or reduce impacts. Impacts on TCPs, sacred sites, historic trails, and some other cultural resource sites which are significant for reasons other than data potential may be difficult or impossible to mitigate.

Because planned actions would be subject to review as federal undertakings under the Section 106 process, there would be further site-specific consideration and mitigation of cultural resource impacts for many of the actions. Overall, the emphasis in Alternative C on actions that emphasize resource conservation and protection and that restrict incompatible actions would best protect significant cultural resources, followed by Alternative D. Alternative B provides the least protection for cultural resources, and Alternative A represents the status quo.

Paleontological Resources

Impacts on paleontological resources are due to erosion, OHVs, excavation, theft, vandalism, and surface-disturbing activities, such as trampling by animals and humans. Experience has shown that damage, theft, and vandalism are usually concentrated near roads and trails. Impacts on paleontological resources may increase because of additional visitation to the areas containing these resources.

There are no likely impacts on paleontological resources resulting from the management, objectives, or actions under most of the other resources. With respect to effects on paleontological resources from these other resources, all of the alternatives are essentially equivalent. Overall, objectives and actions associated with other resources that result in closure to surface disturbance activities would have less chance of disturbance to any paleontological resources that might be present. Impacts on paleontological resources are from management actions related to land use, geology, cave and karst resources, livestock grazing, minerals management, recreation use, OHV travel, and other resources. Management actions for the other resources would vary the amount of land available for surface-disturbing activities and those that could impact the paleontological resources. Paleontological resources or impacts are not managed as unique geologic resources. Even though they are managed separately, any unknown paleontological resources within the boundaries of areas protected as unique geologic features would also be protected.

While physical conservation measures, such as signing, fencing, controlling erosion, and observing administrative conservation, would be implemented under all of the alternatives, under Alternative C, these measures would not be implemented if they could result in increased visitation. Other actions, including withdrawing land, closing public access, and prohibiting OHV use, would be used to protect vulnerable paleontological deposits and to reduce the potential for impacts. Under Alternative D, other actions, including withdrawing land, closing public access, and prohibiting OHV use, would be used as appropriate to protect vulnerable paleontological deposits.

If present, paleontological resources could be impacted by the extent and depths of ground disturbance associated with salable and locatable mineral development. However, the potential for paleontological resources would be assessed before these activities were authorized, and avoidance

or mitigations would be required. Alternative C would have the greatest restrictions to mining, Alternative D would be less restrictive, with Alternative B would be the least restrictive. Under Alternative A, restrictions would be implemented on a case-by-case basis where they may be more restrictive than under Alternative B.

Visual Resources

In general, Effects Common to All Alternatives involve actions that maintain or improve the quality of visual resources. In addition to relying on the visual resource contrast rating system to preserve the overall scenic quality of BLM-administered land, specific actions also maintain or improve visual resources involving air, water, flora, fauna, wildland fire, cultural resources, minerals, and recreation.

Alternative A would continue to rely on dated Management Framework Plans to manage visual resources. The plans are silent on certain issues related to geology, wildland fire, cultural resources, and cave and karst resources, all of which involve visual resources. This threatens visual resources associated with these resources. Also, incorrect or inconsistent visual resource management classifications would continue to make managing visual resources difficult and would threaten the quality of visual resources. Furthermore, the demand for recreational use is expected to continue to increase, increasing the value of open spaces and undeveloped landscapes and the need for management actions to protect sensitive visual resource values.

Alternative C would provide the greatest protection to visual resources after Alternative B. Because Alternative C designates the most priority 1 wildlife habitat acres and the greatest total priority 1 and 2 wildlife habitat acres, it would have the greatest impact on protecting visual resources. Alternative C would assign more VRM class designations that are equal to or more protective than the VRI class designations. Also, Alternative C would close the most acres to OHV use and would have no open areas.

Cave and Karst

Karst features can occur in carbonate rock formations, but no significant karst features have been identified in the WDO. The planning area has not been systematically surveyed for caves. Impacts on caves occur by excavation, theft, vandalism, and large-scale surface-disturbing activities, such as mining. Experience has shown that damage, theft, and vandalism are usually concentrated near roads and trails. Impacts on caves may increase because of additional visitation to areas within the planning area.

There are no likely impacts on cave and karst resources resulting from the management, objectives, or actions under most of the other resources. With respect to their effects on cave and karst resources, all of the alternatives are essentially equivalent. The Lovelock Cave Byway is managed not as a cave resource but in accordance with cultural resource and byway management objectives and actions. Overall, objectives and actions associated with other resources that result in closure to surface disturbance activities would have beneficial impacts (less chance of disturbance) on caves and bat habitat and would increase protection of these resources. The education and public awareness provisions under the alternatives would increase visitation to those areas with caves and karst features, resulting in a greater risk of impacts from vandalism as access is improved and locations become known. While some individuals and small groups consider exploring caves as recreational, there are no caves that are recognized as recreation sites.

Alternatives B, C, and D include actions for implementing appropriate mitigation measures on caves, such as seasonal closures, avoidance, fencing, bat gates, and signing to protect the unique geologic features and wildlife habitat. All alternatives require an inventory for bats and habitat usage before allowing any surface occupancy or disturbance within at least 200 yards of caves that may be occupied. Under Alternatives A and D, large-scale surface-disturbing discretionary actions would not be allowed within 200 yards of occupied adits, caves, or other habitats. The associated caves would be protected from surface-disturbing activities as a result of the protection of the bats. Under Alternative B, surface-disturbing discretionary actions would be allowed near occupied adits, caves, or other habitats if mitigation measures to avoid or reduce adverse impacts were developed. Alternative C would require an inventory for bats and habitat usage before allowing any surface occupancy or disturbance within 500 yards of caves that are not known to be occupied, rather than within 200 yards, as proposed under the other alternatives. Large-scale surface-disturbing discretionary actions would not be allowed within 500 yards of occupied adits, caves, or other habitats.

Resource Uses

Livestock Grazing

Grazing would be impacted when part of an allotment is restricted during vegetation treatments, prescribed burning, reforestation, or watershed or riparian restoration. Grazing exclusion areas designed to protect riparian habitat for wildlife and sensitive species or to protect cultural or paleontological resources would impact livestock grazing. Mineral and energy development also would minimally impact livestock grazing in the short and long term by decreasing the amount of grazing acreage available during construction and operation of these facilities. Alternative D would best provide opportunities for grazing while meeting Sierra Front-Northwestern Great Basin RAC Standards and Guidelines for Rangeland Health, followed by Alternative A and then Alternative B followed by Alternative C, Option 1. Alternative C, Option 2 does not allow grazing on WDO managed lands. Actions under most resource categories have the potential to affect livestock grazing.

Minerals—Leasable, Locatable, and Salable

Mineral resources include fluid and solid minerals leased for development under the Mineral Leasing Act of 1920 and amendments, as well as the Geothermal Steam Act of 1970, locatable minerals that may be claimed and patented under the 1872 Mining Law, and common variety materials that may be purchased under the Mineral Materials Sales Act of 1947.

Development of the various alternatives involved the identification of BLM-administered land that is open or closed to salable, leasable, and locatable mineral activities. On BLM land open to leasing or mining, certain areas may be subject to surface use stipulations in addition to those required by regulation or policy or identified on the standard lease or permit form. These additional restrictions could include NSO and restrictions based on season or other location-specific environmental factors. In many instances, more than one stipulation may apply on the same parcel of land. Table ES-2 indicates the difference among the alternatives in terms of the level of mineral resource availability and surface use restrictions on subsequent operations.

Table ES-2
Summary of Effects on Minerals—Alternatives A, B, C, and D

Indicator	Alternative A	Alternative B	Alternative C	Alternative D
Mineral Materials (Salables)				
Acres closed to mineral material sale or permit	**418,938**	**418,938**	**837,049**	**743,301**
Total Acres open to mineral material sale of some type	**6,786,059**	**6,786,059**	**6,367,789**	**6,461,201**
Acres open to sale/permit[1]	6,786,059	4,473,691	2,746,668	3,487,709
Acres open to sale/permit[1] with known seasonal or other restrictions	0	1,445,244	0	1,202,535
Acres open to permitted government agencies only	0	867,124	3,621,121	1,770,957
Leasable Minerals (Fluid)				
Acres closed to leasing	**446,887**	**1,132,594**	**4,455,028**	**1,198,464**
Acres open to leasing of any type	**6,745,878**	**6,068,969**	**2,749,810**	**5,994,301**
Acres open to leasing[2]	6,716,296	4,472,814	2,749,810	4,008,025
Acres open to leasing[2] plus known seasonal or other restrictions	0	1,374,731	0	1,659,533
Acres open to leasing[2] with No Surface Occupancy	29,582	221,724	0	326,743
Leasable Minerals (Solid)				
Acres closed to leasing	**416,652**	**1,124,266**	**4,455,645**	**1,198,694**
Acres open to leasing of any type	**6,776,198**	**6,068,498**	**2,749,195**	**5,994,123**
Acres open to leasing[2]	6,776,198	4,472,950	2,749,195	4,007,923
Acres open to leasing[2] plus known seasonal or other restriction	0	1,373,904	0	1,659,404
Acres open to leasing[2] with No Surface Occupancy	0	221,644	0	326,769
Locatable Minerals				
Acres closed to claim location	**6,543**	**6,543**	**281,892**	**27,941**
Acres open to claim location	**7,198,294**	**7,198,294**	**6,922,945**	**7,176,896**
Acres open to operations[1]	2,898,405	2,898,405	3,415,323	4,148,888
Acres open to operations but having known conflicts[3]	4,299,889	4,299,889	3,507,622	3,028,008

[1]Open with standard operation terms and stipulations.

[2]Open with standard lease terms and stipulations.

[3]Operations may be authorized, but one or more known conflicts may require special conditions or mitigating measures.

Almost all of the management decisions and actions under each alternative are aimed at protecting other resources. In general, these decisions and actions result in varying amounts of land available for each of type of mineral resource category detailed below. They also result in varying types and levels of mitigation required for protection of sensitive environmental resources. The costs associated with reclamation and other mitigations could affect whether individuals or organizations continue mineral exploration and development activities. Other goals and actions involve frequency and types of audits and inspection of activities related to mineral development to ensure permit compliance and fair compensation for the minerals extracted.

Recreation and Facilities

Effects on recreation management from the proposed alternatives would result in a range of possible outcomes. Surface-disturbing activities, such as wildland fire management and mineral development, would have short-term and long-term effects on recreation users. This would be the case if areas and activities were restricted or excluded until surface-disturbing activities had concluded, or if such activities were to change the landscape character or the available recreation opportunities.

Special designations, including Wilderness Areas (WA), WSAs, and ACECs recommended as suitable for designation, affect recreation management. Typically, these designations protect important historical, cultural, and scenic values, which encourage nonmotorized and more primitive backcountry experiences. Opportunities for this type of recreation user would increase as the percentage of the designated acreage increases. Recreation users who prefer motorized travel as an activity or who require motorized travel to access an area could be affected if previously accessible areas were to become inaccessible to motorized travel.

Maintaining and possibly increasing SRMA designations would protect recreation resources and would encourage appropriate recreation in these areas. The focus in these designations would include the most popular activities within the WDO, such as camping, OHV use, pleasure driving, photography, and picnicking.

Alternatives B and D designate the greatest number of SRMAs and the largest amount of acreage with SRMA designations. Those two alternatives also designate the greatest number of Recreation Management Zones (RMZ). Alternative A designates no additional SRMAs but maintains the current Pine Forest SRMA designation, while Alternative D adds one designation. Alternative A has the fewest number of acres designated in SRMAs, and Alternative C has the second fewest acres. Under Alternative C, effects from general recreation use and designation of new SRMAs are similar to those described under Alternative B, with some exceptions. One SRMA containing a total of five RMZs and 151,824 acres would be designated under Alternative C and the array of recreational opportunities managed for would be more limited and provide more close-to-town activities than under Alternative B.

OHV use, which is a very popular activity within the WDO, is open on the greatest number of acres under Alternative A, followed by Alternative B. Alternative D severely restricts open OHV use, and Alternative C completely precludes it. Limited OHV use occurs on roughly similar acreage under all the alternatives except Alternative A, which has the least acres with limited OHV use. Alternative C closes OHV use on the most acres, followed by Alternative D. Approximately the same number of acres is closed to OHV use under Alternatives A and B.

Renewable Energy

All four alternatives contain actions that would affect the availability of lands for energy development and that could limit the ability to harvest fuels for biomass development. In general, the alternatives with ROW exclusion areas containing the lowest acreage favorable to renewable energy development and with the greatest potential for biomass fuels would have the highest potential for renewable energy development. The amount of land available for disposal out of public ownership would be different for each of the four alternatives and could affect renewable energy development. Although lands that would be disposed of could be used for renewable energy, there is no legal mandate for this use under private or other types of ownership; therefore, renewable energy development could be affected where the land available for disposal also contains renewable energy resources. Disposal probably would result in a lesser effect than ROW exclusion.

Alternative B has the greatest potential for renewable energy development, since there would be no ROW exclusion areas and a relatively high potential for biomass fuels availability. Although Alternative B does not have the lowest acreage available for disposal, it is lower than current conditions (Alternative A). Actions under Alternative C present the least favorable conditions for renewable energy development; Alternative C has more restrictions on fuels treatments and harvest and a relatively high percentage of favorable areas within ROW exclusion areas, even though they have the lowest acreage available for disposal. The potential for renewable energy development under Alternative D would be intermediate between Alternatives B and C.

Transportation and Access

The primary cause of effects on or changes to the transportation network is resource protection. Measures that are implemented to protect natural resources, such as wildlife, water, and soil, and to protect cultural resources could result in seasonal or permanent route restrictions or closures. Permitted activities on BLM-administered lands, such as those related to forestry and minerals, could expand the route network.

Under Alternative B, effects from commercial harvesting of firewood, posts, and Christmas trees could include an increase in forestry-related traffic in the WDO. Long-term effects include an increase in the number of routes accessible on public lands by establishing new logging roads. This would affect opportunities for both motorized and nonmotorized users overall by increasing road density in the WDO. Under Alternative C, certain transportation-related construction and maintenance could be restricted in designated old growth forests if impacts could not be minimized by implementing best management practices or if they could not be offset by mitigation measures. Under Alternative D, effects could be similar to those described under Alternative B, but they are expected to be less because commercial harvesting would be authorized only on a case-by case basis to achieve resource objectives. In addition, effects from designating old growth forests are the same as those described under Alternative C.

Increased visitation due to new recreational facilities would increase the use of roads and trails and would increase the demand for new travel routes under Alternative B. Managing new SRMAs could constrain or restrict public access in certain RMZs within the SRMAs or could enhance or encourage greater public access in other RMZs. Impacts would be local. Also, under Alternative B, 1,460,200 acres would be open to OHV use, 5,445,218 acres would be limited to OHV use, and 24,832 acres would be closed to OHV use; this alternative would allow the most OHV travel of the

RMP alternatives. Under Alternative C, effects from general recreation use and designation of new SRMAs are the same as those described under Alternative B. OHV travel would be the most restricted under Alternative C, with 61,427 acres closed, 7,143,177 acres limited, and no acres open to OHV use. Under Alternative D, effects from general recreation use and designation of new SRMAs are the same as those described under Alternative B. Under Alternative D, 289,932 acres would be open to OHV use, 6,878,592 acres would be limited, and 35,483 acres would be closed to OHV use.

Under Alternative B, constructing roads while avoiding fragmentation may affect the location of routes, limiting access in some areas. Also, installing directional signs would enhance travel within the WDO, particularly for recreational use, by indicating proper direction to destinations. In addition to minimizing the potential for visitors to become lost, signage would help direct traffic to main travel routes and would reduce the accidental use of roads that may not be suitable for all types of travel. Under Alternatives C and D, decommissioning, removing, or rerouting roads or trails that are adversely affecting the environment may limit access to some areas of the WDO. Constructing roads while avoiding fragmentation may affect the location of routes, limiting access in some areas. Effects from implementing a signage plan are the same as those described under Alternative B.

Under Alternative B, designating 716,528 acres as avoidance areas to protect resources could affect future route planning in and through these areas, although the impact on route planning would be limited. This is because resource impacts from the granting of ROWs would not be completely prohibited but would require mitigation. Under Alternative C, designating 869,645 acres as avoidance areas for granting ROWs would have the same effects as those described under Alternative B. In addition, 1,279,481 acres would be designated as exclusion areas for granting ROWs in order to protect priority wildlife areas; this would limit route planning and could restrict access to some areas for certain uses. Under Alternative D, designating 1,325,967 acres as avoidance areas for granting ROWs would have the same effects as those described under Alternative B. Designating 699,929 acres as exclusion areas for granting ROWs would have the same effects as those described under Alternative C.

Lands and Realty

Alternative A would continue to rely on dated Management Framework Plans and the 1999 Lands Amendment to Paradise-Denio and Sonoma-Gerlach Management Framework Plan to manage land use and land designations. These plans are silent on current issues (such as the scattered land ownership pattern, renewable energy development, and ROWs) affecting the management of BLM-administered land, diminishing the ability of the BLM to effectively manage the land.

In absolute terms, Alternatives C and D would have similar impacts on land use and land designations. Alternative B would provide slightly fewer opportunities for changing land uses and designations.

In relative terms, Alternatives B, C, and D differ in their degree of impact on land use and land designations. A noteworthy aspect of resource management actions that affect land use and land designations has to do with compatibility. For example, the allowance of one type of use can involve the restriction of a different type of use. Conversely, the restriction of one type of use can involve the allowance of a different type of use. Consequently, changes in land use typically involve both an increase and a decrease in the types of activities that can occur due to compatibility issues.

Special Designations

Areas of Critical Environmental Concern

In general, effects common to all alternatives involve actions that maintain or improve the qualities Areas of Critical Environmental Concern (ACEC). Administrative designations include that of ACECs. Potential ACEC designated areas were identified in the ACEC Relevance and Importance Evaluations (2006), Appendix F.

Under Alternative A, the BLM would continue to rely on dated management framework plans, along with current policy and guidance for the Osgood Mountain milkvetch ACEC. These plans are silent on areas recently proposed for ACECs and wild and scenic rivers.

Alternative B would be similar to Alternative A but includes additional protection for the Osgood Mountain milkvetch ACEC. For example, the ACEC would be closed to fluid mineral leasing, and there would be no surface occupancy. This would protect the special qualities of the ACEC from fluid mineral activities. There would be no surface occupancy for solid mineral development in the Osgood Mountain ACEC because the ACEC would be within a two-mile radius of known sensitive plants. This would protect the special qualities of the ACEC from solid mineral development. Also, the BLM would manage the ACEC and associated landscapes as VRM Class II.

Alternatives C and D would increase the number of ACECs and, therefore, would increase the protection of special resources in the WDO. However, Alternative C would provide greater protection than Alternative D to those special resources by, for example, limiting land-disturbing activities and conserving resources in the ACECs.

Wild and Scenic Rivers

In general, Effects Common to All Alternatives involve actions that maintain or improve the qualities of areas with special designations. Administrative designations include eligible river segments that are suitable or unsuitable under the Wild and Scenic River Act of 1968. Eligible river segments for WSR assessment were identified in the WSR report in Appendix G (BLM 2006).

Under Alternatives A, B, and D, no segments of rivers or streams would be managed as WSRs in the WDO. This would threaten the outstanding remarkable values of eligible river segments identified in the WSR report (BLM 2006) from land disturbances and resource consumption.

Under Alternative C, the BLM would provide for the protection of eligible river segments, in accordance with tentative suitability classifications for the North Fork of the Little Humboldt, Washburn Creek, and Crowley Creek. This would protect the outstanding remarkable values of eligible river segments identified in the WSR report (BLM 2006).

Back Country Byways

In general, the effects common to all alternatives involve actions that maintain or improve the qualities of backcountry byways (BCB). Specific actions to achieve this are associated with the management of rangeland vegetation, wild horses and burros, wildland fire, cultural resources, visual resources, livestock grazing, minerals, recreation and visitor outreach and services, renewable energy, transportation and access, lands and realty, and backcountry byways. In general, any actions that

would change the visual or aesthetic character of the landscape surrounding the BCB would have impacts on the quality of the BCB.

Under Alternative A, the BLM would continue to rely on dated management framework plans to manage the Lovelock Cave BCB. Designation of new BCBs would be considered. An increasing population and increasing demand for recreation opportunities threaten the landscape surrounding the Lovelock Cave BCB and other potential BCBs because the management framework plans lack management actions for these areas.

In absolute terms, Alternatives C and D would have similar impacts on BCBs, with some exceptions. Alternative C would provide additional protection to the landscape surrounding existing and potential BCBs because it would protect the areas from livestock damage, such as trampled vegetation. Compared to Alternatives C and D, Alternative B would provide less than half of the opportunities for protecting the special resources associated with BCBs.

In relative terms, Alternatives B, C, and D differ in their degree of impact on existing and potential BCBs.

Wilderness, Wilderness Study Areas, and Lands with Wilderness Characteristics

In general, effects that are common to all alternatives involve actions that maintain or improve the qualities of WSAs or areas with wilderness characteristics. Specific actions to achieve this are associated with most resources.

Under Alternative A, the BLM would continue to rely on dated management framework plans to manage WSAs or areas with wilderness characteristics. These plans are silent on areas with wilderness characteristics. In addition, an increasing population and increasing demand for recreation opportunities further threaten areas with wilderness characteristics because these public resources lack management actions in the management framework plans.

In absolute terms, Alternatives C and D would have similar impacts on WSAs or areas with wilderness characteristics, with some exceptions. Alternative C, Option 2 would provide additional protection to WSAs or areas with wilderness characteristics because it would protect the areas from damage by livestock grazing, such as trampled vegetation. Alternatives B, C, and D identify six wilderness characteristics areas for management. Under Alternative B, BLM would manage these areas to achieve multiple use and sustained yield objectives, while Alternative C would close these areas to mineral leasing and salable mineral disposal and would be designated as ROW exclusion zones and priority 1 habitat. Alternative D would implement unspecified restrictions to provide a flexible and location-specific approach to management of areas with wilderness characteristics. Compared to Alternatives C and D, Alternative B would provide fewer opportunities for protecting the special resources associated with these areas.

In relative terms, Alternatives B, C, and D differ in their degree of impact on WSAs or areas with wilderness characteristics.

Watchable Wildlife Viewing Sites

The BLM would maintain the following existing Watchable Wildlife Viewing sites (as published in the *Nevada Wildlife Viewing Guide* [Clark 1993]), and evaluate potential watchable wildlife areas in collaboration with local, state, tribal, federal agencies and interested publics:

- High Rock Canyon,
- Mahogany Creek,
- Pine Forest Mountains,
- McGill Canyon,
- Santa Rosa Mountains, and
- Sonoma Creek.

New site-specific watchable wildlife viewing sites have not been identified in any of the proposed alternatives. However, the BLM plans on coordinating with NDOW to establish location-specific watchable wildlife viewing sites. The suitability and value of any proposed watchable wildlife viewing site depends on the presence of healthy undisturbed habitat composed of native vegetation and on maintaining healthy, viable wildlife populations. Therefore, actions to improve either of these characteristics would indirectly benefit potential watchable wildlife viewing sites. Detailed analyses of impacts on habitats and wildlife from the varying degrees of alternative objectives and actions are discussed under Vegetation—Forest/Woodland Products, Vegetation—Weeds, Vegetation—Rangelands, Vegetation—Riparian Habitat and Wetlands, Fish and Wildlife, and Special Status Species.

Social and Economic

Tribal Interests

There are no known Indian Trust Assets or treaty-based rights or responsibilities of the BLM in the planning area, so no impacts on these are expected. Effects of each of the management action alternatives on tribal economic interests on reservation lands are likely similar to those of other residents in rural low-income parts of the planning area, as described under Social and Economic Conditions and Environmental Justice. However, under Alternatives C and D, on congressional approval, lands would be transferred to the Bureau of Indian Affairs for the expansion of the Fort McDermitt Indian Reservation. Expansion of the reservation land base may permit additional economic development of and income to the reservation.

Public Health and Safety

Nearly all management activities on the WDO lands could affect public safety to some extent. The main goal for public safety as a resource is to protect people from natural or human-caused hazards encountered on public lands. Essentially, any management activity that improves access to BLM-administered lands or encourages the use of BLM-managed lands increases the likelihood that the public and BLM employees could come into contact with abandoned mine lands, modern mine pits, high walls and pit lakes, hot springs, and hazardous material sites, including solid waste, illegal dump

sites, and unexploded ordinance or explosives. However, improving access in the resource area could reduce the number of accidents that result from poor travel conditions.

Under the Abandoned Mine Lands Program, management works to remove or remediate dangerous situations and materials when they are discovered. Remediation of abandoned mine hazards are prioritized by the potential for public exposure through access and proximity to populated areas and recreational uses. Increased public exposure to abandoned mine hazards would increase the priority to remediate those hazards in a timely manner. All alternatives would continue this work and would add procedures and safeguards for hazardous sites, including removing hazards, protecting significant sites, and stabilizing or limiting accessibility of abandoned mine lands and other hazardous sites when removal of hazards is not practical. Alternative C has some added restrictions associated with recreation, visitor outreach and services management, geology management, and chemical and biological control of vegetation management, on abandoned mine lands and hazardous sites. These restrictions exceed those under Alternatives A and B and are nearly the same as those under Alternative D. Long-term management of completed projects should include periodic maintenance and monitoring to determine success and stability of these measures.

Social and Economic Conditions and Environmental Justice

Alternative A would maintain current management practices; therefore, it would not induce any changes to the socioeconomic indicators. The actions proposed under Alternative B are more use oriented and call for the fewest surface occupancy restrictions, special stipulations, and exclusion areas to protect water resources, wildlife and wildlife habitat, and geological, paleontological, and cultural resources. As such, Alternative B provides the highest level of opportunity for economic development based on market goods, such as extractive industries, while potentially reducing non-market values, such as aesthetics and opportunities for solitude. Alternative C is more environmentally oriented, with the greatest acreage of restrictions; therefore, Alternative C has the greatest potential for limiting market-based economic activities but possibly enhancing non-market values, including bequest values for undisturbed lands. The acreage restrictions under Alternative D fall between Alternatives B and C. Actions designed to protect sensitive resources under all alternatives could result in increased expenditures as a result of the management of some resources, such as water.

Each of the action alternatives has the potential to affect local expenditures for equipment, supplies, and services by generating income in the local economy and fostering growth, by minimizing the potential for changes in economic growth, or by reducing income in the local economy and limiting growth, depending on the resource being considered. In general, Alternative B has the greatest potential for generating or minimizing effects on economic growth. Alternative C has the most actions that would limit resource uses, thereby limiting the contribution of these uses to the local economy. In particular, Option 2 would eliminate grazing, which would impact individual ranchers, reduce local economies, and affect the social values of the local area. Alternative D would tend to have an economic effect that is intermediate between Alternatives B and C due to management actions relating to grazing, minerals, and recreation.

None of the alternatives would result in direct changes in population or changes in the demand for housing, schools, and public facilities and services. Alternative B could result in an indirect stimulus to population growth by encouraging greater resource use. No low-income or minority populations

would be displaced or separated from community facilities, nor would minority businesses be disrupted by the proposed alternatives. Alternative C, Option 2, would eliminate a source of income for a specific group. To the extent that livestock grazing is the dominant or sole source of income for this group and that these ranchers' incomes would be considered low income, Alternative C, Option 2, could have a disproportionate effect on an environmental justice population.

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